The nuclear debate

WORKSHEET **A**

One of the consequences of the terrible earthquake and tsunami in Japan on 11 March was, of course, a leak of radiation at the Fukushima nuclear power station on the country's east coast. Soon afterwards, all the people living within twenty kilometres of the plant were told to leave because of the danger from the radiation.

All around the world, everyone watching the Fukushima situation on TV can only hope it will not be as serious as the accident at the Chernobyl nuclear power station in Ukraine in 1986, when tens of thousands of people had to leave their homes permanently, and estimates of the eventual number of deaths from radiation-related illnesses range from 4,000 to more than 100,000.

The pros and cons of nuclear power always come up in debates about how the world should produce the energy it needs. Those who think the risks are too great can obviously use Chernobyl – and now Fukushima – in their argument, while also pointing out that nuclear waste stays radioactive for hundreds of years, and asking what might happen if terrorists ever chose to attack a nuclear power plant. Those who support nuclear power point out that a very small amount of nuclear fuel can create a huge amount of energy, and that unlike the burning of fossil fuels such as oil, coal and natural gas, nuclear power stations don't contribute to global warming by pushing greenhouse gases into the atmosphere.

Most of the world's energy currently comes from fossil fuels, but this can't go on forever. As well as the problem of global warming there is the simple fact that the Earth has a limited amount of these resources. They will eventually run out – although there is a lot of disagreement about when that might be.

Apart from nuclear power, which currently provides less than 10% of the world's energy, the other alternative is energy from renewable sources. These include hydropower, biofuels (made mostly from crops), wind power and solar power, and together they currently provide around 15% of the world's energy.

Some scientists think renewable energy is the great hope for the future – not only because it won't run out but also because it is less risky than nuclear power and produces far fewer greenhouse gases than burning fossil fuels.

Other scientists, however, believe we will never produce enough renewable energy to fill the gap when fossil fuels begin to run out. That is why, even while watching the very worrying events in Japan, they argue that nuclear power will always have to be part of the solution to the world's energy problems.

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WORKSHEET **B**

Exercise 1
Decide whether the following statements are true (T) or false (F), or if the text doesn't say (D).

1. Half the world's energy currently comes from oil.

2. The Chernobyl nuclear plant was in Russia.

3. Renewable sources currently provide more energy than nuclear power.

4. After the Chernobyl accident, everyone who had to leave their home was able to return a few years afterwards.

5. The Earth has a limited amount of oil and coal.

6. All fossil fuels will probably run out in the next 100 years.

7. Fossil fuels currently provide most of the world's energy.

8. More than 10,000 people worked at the Fukushima nuclear plant.

9. The Chernobyl disaster was caused by terrorists.

10. Wind power is a form of renewable energy.

Exercise 2
Answer the questions below.

1. Where in Japan is the Fukushima nuclear plant situated?

2. According to the text, what are the pros and cons of nuclear power?

3. The text mentions three advantages of renewable energy sources: what are they?

4. According to the text, why do some scientists think we will still need nuclear power in future?

5. What are biofuels made from?

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WORKSHEET **C**

Exercise 3
The text from Worksheet A has been copied below, but contains some mistakes. Twenty of the words in bold are incorrect, and five are correct. Decide which are incorrect, and correct them.

One of the (1) **consequences** of the terrible earthquake and tsunami in Japan on 11 March was, of course, a (2) **leak** of radiation at the Fukushima nuclear power station on the country's east coast. Soon afterwards, all the people living within twenty kilometres of the plant were told to leave because of the danger from the radiation. All around the world, everyone watching the Fukushima situation on TV can only hope it will not be as serious as the accident at the Chernobyl nuclear power station in (3) **Ucraine** in 1986, when tens of thousands of people had to leave their homes (4) **permanent**, and estimates of the eventual number of deaths from radiation-related illnesses (5) **rang** from 4,000 to more than 100,000.

The pros and cons of nuclear power always come up in debates about how the world should produce the energy it needs. Those who think the risks are too great can obviously use Chernobyl – and now Fukushima – in their argument, while also pointing (6) **at** that nuclear waste stays (7) **radioacting** for hundreds of years, and asking what might happen if terrorists ever chose to attack a nuclear power plant.

Those who support nuclear power point out that a very small amount of nuclear fuel can create a huge amount of energy, and that unlike the (8) **burn** of fossil fuels such as oil, (9) **cool** and natural gas, nuclear power stations don't contribute to global (10) **heating** by pushing (11) **green** gases into the (12) **atmosphere**.

Most of the world's energy currently comes from fossil fuels, but this can't go on (13) **ever**. As well as the problem of global warming there is the simple fact that the Earth has a limited amount of these (14) **recourses**. They will eventually run (15) **up** – although there is a lot of disagreement about when that might be.

Apart from nuclear power, which currently (16) **provide** less than 10% of the world's energy, the other alternative is energy from renewable sources. These include (17) **hidropower**, biofuels (made mostly from (18) **cops**), wind power and (19) **sun** power, and together they currently provide around 15% of the world's energy.

Some scientists think renewable energy is the great (20) **hope** for the future – not only because it won't run out but also because it is less (21) **risk** than nuclear power and produces far (22) **less** greenhouse gases than burning fossil fuels.

Other scientists, however, believe we will never produce enough renewable energy to (23) **ill** the gap when fossil fuels begin to run out. That is why, even while watching the very (24) **worry** events in Japan, they argue that nuclear power will always have to be part of the (25) **solution** to the world's energy problems.